

DIRECTIVE INSTINCT

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sympathy must also guide the internal organs of our bodies : the heart and the lungs act with full appreciation of each other's requirements, and the stomach realizes what substances should be accepted, and what rejected by it. But this description is not sufficiently comprehensive.

Directive instinct is apparently the energy by which living creatures grow from their initial to their adult stages, and it must therefore include a realization of *purposes*—not merely of the ends to which certain organisms and substances of the environment should be applied, but of the final development to which growth tends. And it must also include a precise and detailed realization of the means by which growth, nourishment, and reproduction are effected. The characteristics of this faculty have already been described. They include independence of experience, inevitability of sequence, and accuracy of execution.

An organism that is guided by it knows no doubt or hesitation : it proceeds towards its aim with the unfailing punctuality of clockwork. So appears to us the undeviating regularity of a beehive, and so would appear to us the working of our internal organs could we realize its accurate complexity.

An accomplishment which simulates the processes of directive instinct is that known as the "ideo-motor," by which we are able to execute elaborate series of movements, such as

those of
walking, speaking, or playing the
piano, without
any dependence upon the brain, each
sensory
impression or recollection producing
the appropriate muscular reaction by the
independent
functioning of local nerve centres. But
this
accomplishment is only acquired by
deliberate
practice. Processes that are directed
by instinct
need no practice whatever. A young
caterpillar
on emerging from the egg is as
efficient in its